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08/950,826	10/15/1997	YUKIO UEMURA	4041J-000063	9840

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EXAMINER

FORD, JOHN K

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23

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Paper No. 23

Application Number: 08/950,826  
Filing Date: October 15, 1997  
Appellant(s): UEMURA ET AL.

Micheal J. Schmidt  
For Appellant

**EXAMINER'S ANSWER**

**MAILED**  
**APR - 5 2004**  
**GROUP 3700**

This is in response to the appeal brief filed December 15, 2003.

**(1) *Real Party in Interest***

A statement identifying the real party in interest is contained in the brief.

**(2) *Related Appeals and Interferences***

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

While the Examiner believes counsel is correct in his conclusion as to appeals “pending,” that is not precisely what is required by 37 CFR 1.192( c )( 2 ). For the record, and in an abundance of caution, the Board affirmed the Examiner’s rejection in SN 08/965,680 related to this “double-layer” technology in an already decided appeal. As to the placement of the evaporator temperature sensor and the compressor control scheme claimed here, SN 08/965,680 contains no disclosure that would have direct bearing on this appeal in the Examiner’s opinion.

**(3) *Status of Claims***

The statement of the status of the claims contained in the brief is correct.

**(4) *Status of Amendments After Final***

The appellant’s statement of the status of amendments after final rejection contained in the brief is incorrect.

**(5) *Summary of Invention***

The summary of invention contained in the brief is correct.

**(6) *Issues***

The appellant's statement of the issues in the brief is substantially correct. The changes are as follows: in issue 2) the proper secondary reference is JP 61-202914 as understood by Appellant on page 10, lines 11-13 of the Brief. The caption of the rejection was not properly written in the Final rejection of September 30,2003.

**(7) *Grouping of Claims***

Appellant's brief includes a statement that claims a 1, 3-8 and 19 and claims 10 and 20-24 do not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

**(8) *Claims Appealed***

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(9) *Prior Art of Record***

The following is a listing of the prior art of record relied upon in the rejection of claims under appeal.

5,526,650	Iritani et al.	6-1996
61-202914	Kawai et al.	9-1986
6-270645	Yamanaka	9-1994✓
7-69045	Yamanaka	3-1995✓
5-124426	Nissan	5-1993

**(10) *Grounds of Rejection***

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1, 3-8, 10 and 19-24 are rejected under 35 U.S.C. 102(f). This rejection is set forth in prior Office Action, Paper No. 20.

The rejection under 35 U.S.C. 102(f) is withdrawn in view of Appellant's explanation regarding Japanese Kan-Ji characters not being accurately translated.

Claims 1, 5, 7, 8, 10, 20 and 21 are rejected under 35 U.S.C. 103(a). This rejection is set forth in prior Office Action, Paper No. 20.

The 35 U.S.C. 103(a) rejection is, reluctantly, withdrawn as to claims 10, 20, and 21 because none of the prior art references teach or suggest the post-evaporator temperature sensor placement in the duct that feeds air to the windshield. It is troubling however to the Examiner that no definitive answer exists to the question of where, precisely, the post-evaporator temperature sensor was placed in any prior art system manufactured by Denso (the current assignee) that may have been sold in the United States corresponding to Denso-assigned references JP 07-047831 or USP 5,526,650 (both of record here). Only one of the inventors, Mr. Suwa, by declaration, has stated that he has no personal knowledge of where the post-evaporator temperature sensor in JP 07-047831 was placed. For more information related to the Examiner's attempts to obtain this information see the final rejection (Paper No. 20, page 3, first full paragraph – page 4, third full paragraph).

Claims 3 and 22 are rejected under 35 U.S.C. 103(a). This rejection is set forth in prior Office Action, Paper No. 20.

The rejection 103(a) rejection is withdrawn as to claim 22.

Claims 6, 19, 23 and 24 are rejected under 35 U.S.C. 103(a). This rejection is set forth in prior Office Action, Paper No. 20.

The rejection 103(a) rejection is withdrawn as to claims 23 and 24.

Claims 10 and 20-24 are allowable based on the information currently found in this file.

**(11) Response to Argument**

1. 35 U.S.C. 102(f) rejections - Brief, page 8, moot.
2. 35 U.S.C. 103(a) Iritani/JP'914 as to claims 1, 5, 7, and 8.

Appellant's arguments are convincing up to the point where Appellant's analysis stopped.

There are two alleged deficiencies in Iritani. First, Iritani doesn't precisely teach where the evaporator sensor 80 is placed however it is clearly disclosed that is " detects the air temperature immediately after passing through evaporator 31" (col. 7, lines 36-39). The post-evaporator temperature sensor is therefore located somewhere immediately downstream of the evaporator, within air duct 21, either above partition 32 in upper air passage 33 or below partition 32 in lower air passage 34. Appellant does not argue this point. Nor does Appellant argue that JP 61-202914 does not disclose the post-evaporator temperature sensor 6 in one of the ducts formed above and below the partition plate 19 in that reference. Note that claim 1 is satisfied with the post-evaporator temperature sensor being located in either passage. Nor does Appellant argue that it would not be obvious to place sensor 80 in Iritani in the lower duct as is taught by the reference and properly motivated by logical art based reasoning by the Examiner.

Repeated questioning by the Examiner (Paper No. 13, page 2, lines 1-12 and Paper 11, paragraph spanning pages 2 - 3 and Paper No. 20, page 3, first full

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paragraph – page 4, third full paragraph) elicited no response from Appellant's as to the actual location of the sensor 80 in the Iritani reference. The Board should note, in this regard, that JP 07-047831 is believed to be the Japanese equivalent of Iritani (USP 5,526,650), at least in regard to where evaporator outlet sensor 80 was placed. The Examiner has withdrawn his rejection of claim 10 and its dependent claims based on the fact that he did not find any prior art, which specifically taught locating the evaporator outlet sensor in the upper duct 33 of Iritani immediately downstream of the evaporator. Such allowability is predicted on an understanding that, after reasonable investigation by Appellants, any prior art actual device sold in the United States corresponding to what is disclosed in Iritani and/or JP 7-47831 did not have sensor 80 located in the upper duct thereof. Appellants have unique access to information about any prior art device corresponding to Iritani/JP 7-47831 on the basis that they are commonly assigned to the current assignee, Denso Corporation.

The only other argument made in the Brief is that Iritani does not disclose the "adjusting means", "adjusting control means" and "changing means" recited in the last seven lines of claim 1. This argument can only be made if one does not consider the entire disclosure of Iritani et al. Unfortunately, Appellant's in their Summary of the Invention in the Brief and in the main portion of the Brief do not state precisely what disclosed structure or algorithms correspond to each of disclose the "adjusting means", "adjusting control means" and "changing means" recited in the last seven lines of claim 1. The Examiner believes in the absence of any argument by Appellants on this point in

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the main Brief, that the Examiner's reasonable interpretation must control and that new arguments in any forthcoming Reply Brief would be improper.

The pertinent disclosure in Iritani is found in col. 9, lines 42-45 wherein the speed of the compressor 56 is explicitly disclosed to be controlled by means of feedback (e.g. PI, proportional/integral or fuzzy logic) control from the temperature sensor 80. At col. 10, lines 5-13 it is further disclosed what type of feedback control is used. Namely the revolution speed of the compressor 56 is controlled so that the measured evaporator exit temperature ( $T_e$ ) measured by sensor 80 becomes the evaporator target exit temperature ( $T_{eo}$ ). This is traditional feedback control. The evaporator target exit temperature is the claimed "set temperature" that the computer 68 has computed to be that which is desirable under dehumidification.

It is abundantly clear to one of ordinary skill in this art, and this is not argued by Appellants, that the system in Iritani which changes the speed of the compressor 56 answers to Appellant's limitation "adjusting means for adjusting a refrigerant amount flowing to said cooling heat exchanger" because, a slow revolving speed of the compressor will reduce the refrigerant flowing amount and a fast-speed will increase the refrigerant flowing amount flowing into heat exchanger 31 (the evaporator).

Nor can it be argued (and Appellant does not argue) that the "adjusting control means" recitation in the penultimate clause of claim 1 is not satisfied by the feed back control described in col. 10, lines 9-13, (in step 232) wherein the evaporator exit temperature,  $T_e$ , sensed by sensor 80 corresponds to Appellant's claimed "cooling temperature detected by said temperature sensor" and the evaporator target exit



temperature,  $T_{eo}$ , corresponds to Appellant's claimed "set temperature for controlling the operation of the adjusting means." The two temperatures  $T_e$  and  $T_{eo}$  must be compared if the two temperatures are going to be controlled to "become one another". This comparison is inherent in the feedback process and is so conventional and well known in the art that it is considered fundamental knowledge. Appellant does not argue it.

Appellant's only argument is that the last clause of claim 1 is not taught, namely that "changing means for changing the set temperature according to a temperature of outside air" is not disclosed in Iritani. The Examiner respectfully disagrees. In col. 18, lines 38-43, it clearly states that in lieu of the set point being changed "so as to satisfy intake air temperature  $T_{in}$  -15C and also 3C or over" as disclosed in col. 10, lines 5-8, the system can instead "cause evaporator temperature target exit temperature  $T_{eo}$  to change in accordance with ambient air temperature and passenger compartment humidity." This clearly answers to the last clause in claim 1, wherein the same word "change" (used in Appellant's claim) is used to describe changing the set temperature  $T_{eo}$  according to the ambient temperature (i.e. the temperature outside of the vehicle).

Regarding these means plus function recitations, the Examiner's analysis, above, is based on the controlling case of In re Donaldson, 29 USPQ2d 1845 (Fed. Cir. 1994), which states, in pertinent part, that the means plus function recitation in a claim will be construed to cover corresponding structure, material, or acts described in the specification and equivalents thereof. While Appellant's disclosure discusses turning the compressor (the claimed "adjusting means") on and off as a function of outdoor

temperature, it is not limited to this. The Examiner has specifically found that a compressor whose speed is modulated by an inverter (as disclosed in Iritani) is an equivalent under 35 USC 112, sixth paragraph, to what Appellant has described in the specification. Two things are important here. First, Appellant has never argued that there is not an equivalence between on-off control and inverter control of the compressor (the latter simply being a more refined manner of attaining adjustable control of compressor output). Moreover, Appellant amended the original language of claim 1 to change "intermitting means for intermitting refrigerant flowing into said cooling heat exchanger" to -- adjusting means for adjusting a refrigerant amount flowing into said cooling heat exchanger --. This change in language clearly indicates Appellant's intent to secure broader protection than mere on-off control ("intermitting") of the compressor, by adopting language (i.e. "adjusting") consistent with the inverter control disclosed by Iritani. The "adjusting" language in the means plus function recitation is not found in the specification or the claims as filed.

What Appellant states on page 10, lines 3-5 of the Brief, that "... there is nothing disclosed, taught or suggested in Iritani et al. to provide changing means or changing the set temperature according to the outside temperature" is submitted to be untrue.

Appellant's arguments with respect to JP'914 on pages 10-12 of the Brief, to the extent that they pertain to claim 1, are not well founded. As to claim 1, the post-evaporator sensor can be in either the upper or lower passages (33 and 34) of Iritani by Appellant's own admission (Brief, page 10, lines 20-21).

Appellant then launches into a discussion of Figure 1 of Appellant's specification as if that were the primary reference instead of Iritani (Brief, page 10, lines 21- page 11, line 7). The Examiner submits this argument is ill founded and simply confusing to the reader. The primary reference Iritani has upper and lower passages (33 and 34). The fact that Appellant's passages are side-by-side horizontally is irrelevant because it isn't being claimed in claim 1.

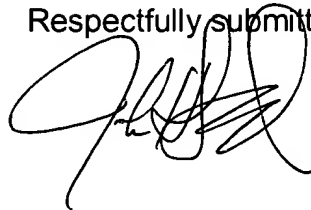
While it is unnecessary for the Board to look to JP 6-270645 or JP 7-69045 applied to dependent claim 3, according to Appellant (because all of claims 1 and 3-8 have been designated by Appellant to stand or fall together), if there is a scintilla of doubt in any Board member's mind about the explanation of the control scheme in Iritani (which is admittedly not the easiest technology to understand unless you work in it daily as the Examiner does) he or she is encouraged to look at JP '645 or JP '045 as an educational tool (see USP 4,481,789, Figure 8 in the same capacity) to confirm the validity of what the Examiner has made strident efforts to express as simply and as clearly as possible in this Answer. It must be understood that these latter references (JP '645, JP '045, USP '789) are merely offered up as educational background for the Board members. Under no circumstances is the Examiner attempting to raise a new ground of rejection or bolster a weak rejection.

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For the above reasons, it is believed that the rejections should be sustained.

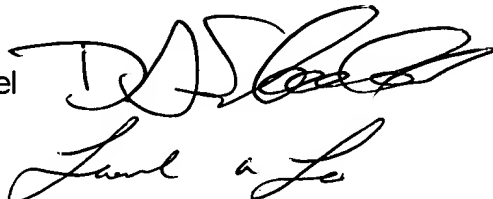
Respectfully submitted,



**John K. Ford**  
**Primary Examiner**

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March 30, 2004

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